

MAR 25 2013

Gerardo C. Rios, Chief
Permits Office (AIR-3)
U.S. EPA - Region IX
75 Hawthorne St
San Francisco, CA 94105

**Re: Notice of Final Action - Minor Title V Permit Modification
District Facility # N-238
Project # N-1110085**

Dear Mr. Rios:

The Air Pollution Control Officer has modified the Title V permit for Ingredion Inc. by incorporating Authority to Construct N-238-18-5. The applicant proposed the modification of a turbine to add a selective catalytic reduction system and to lower the NOx emission limit for District Rule 4703 compliance.

Enclosed is the modified Title V permit. The application and proposal were sent to US EPA Region IX on January 23, 2013. No comments were received following the District's preliminary decision on this project.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Rupj Gill, Permit Services Manager, at (209) 557-6400.

Sincerely,



David Warner
Director of Permit Services

DW:JH

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-238-18-6

EXPIRATION DATE: 03/31/2014

EQUIPMENT DESCRIPTION:

SOLAR TURBINE INCORPORATED CENTAUR 2800 KW (ISO) CONTINUOUS DUTY INDUSTRIAL GAS TURBINE GENERATOR AND A DELTA WASTE HEAT BOILER, MODEL 3L-227, SERVED BY A SELECTIVE CATALYTIC REDUCTION SYSTEM

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit
2. The water to fuel injection ratio shall be maintained at a minimum of 0.57 by weight. [District NSR Rule and District Rule 4703] Federally Enforceable Through Title V Permit
3. The permittee shall maintain and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. [District Rule 4001 and District Rule 4703] Federally Enforceable Through Title V Permit
4. A flowmeter shall be operated at the water injection system's water inlet to the turbine. The flow meter shall be equipped with flow totalizer. [District NSR Rule and District Rule 4703] Federally Enforceable Through Title V Permit
5. The turbine shall only be fired on natural gas with a sulfur content not exceeding 1.0 grains of sulfur compounds (as S) per 100 dry standard cubic feet of natural gas fuel. [District Rule 2201, 40 CFR 60.333(a), and San Joaquin County Rule 407] Federally Enforceable Through Title V Permit
6. Emissions from the gas turbine shall not exceed any of the following limits: 120 ppmvd CO @15% O₂; 0.0070 lb-PM₁₀/MMBtu; 0.0021 lb-VOC/MMBtu (referenced as methane); and 0.00285 lb-SO_x/MMBtu (referenced as SO₂). The CO emission limit is based on a 3-hour average. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
7. Ammonia slip (NH₃) emissions shall not exceed 5 ppmvd @ 15% O₂. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Except during startup and shutdown periods, emissions from the gas turbine system shall not exceed 9 ppmvd NO_x @ 15% O₂. [District Rules 2201 and 4703, and 40 CFR 60.332(c)] Federally Enforceable Through Title V Permit
9. During startup and shutdown periods, emissions from the gas turbine system shall not exceed 35 ppmvd NO_x @ 15% O₂ once the turbine generator has reached operating speed. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
10. The duration of each startup and each shutdown shall not exceed 2 hours per event. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
11. The total combined duration of startups and shutdowns shall not exceed 8 hours in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

12. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its SCR operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown shall be defined as the period of time during which a unit is taken from an operational to non-operational status as the fuel supply to the unit is completely turned off. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
13. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown periods. [District Rule 4703] Federally Enforceable Through Title V Permit
14. Source testing to demonstrate compliance with the NO_x, CO, and NH₃ emission limits of the gas turbine system shall be conducted at least once every 12 months. The 3-run tests shall be performed at four evenly spaced load points in the normal operating range of the gas turbine. [40 CFR 60.335(a), (b)(2) and District Rules 1081 and 4703] Federally Enforceable Through Title V Permit
15. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
16. NO_x emissions (referenced as NO₂) shall be determined using EPA Method 7E or EPA Method 20. [District Rules 1081 and 4703, 40 CFR 60.335(b)(1)] Federally Enforceable Through Title V Permit
17. CO emissions shall be determined using EPA Method 10 or EPA Method 10B. [District Rules 1081 and 4703] Federally Enforceable Through Title V Permit
18. Oxygen content of the exhaust gas shall be determined using EPA Method 3, EPA Method 3A, or EPA Method 20. [District Rules 1081 and 4703] Federally Enforceable Through Title V Permit
19. Ammonia (NH₃) emissions shall be determined using BAAQMD Method ST-1B. [District Rules 1081, 2201, and 4102] Federally Enforceable Through Title V Permit
20. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
21. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
22. If this unit is not fired on PUC-regulated natural gas, the sulfur content of each natural gas fuel source shall be tested weekly to determine compliance with the fuel sulfur content limit. Upon the completion of eight consecutive weekly tests that demonstrate compliance with the fuel sulfur content limit, the sulfur content testing may be conducted on a monthly schedule. If any test shows non-compliance with the fuel sulfur content limit while on a monthly testing schedule, the testing schedule shall return to weekly testing until eight consecutive weeks demonstrate compliance with the fuel sulfur content limit. [District Rule 2201 and 40 CFR 60.334(h)(3)] Federally Enforceable Through Title V Permit
23. If this unit is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 4084 or D 3246. [40 CFR 60.335(d)] Federally Enforceable Through Title V Permit
24. If this unit is fired on PUC-regulated natural gas, then the owner or operator shall maintain copies of the natural gas bills on file. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
25. Ammonia shall be injected whenever the selective catalytic reduction system catalyst temperature exceeds the minimum ammonia injection temperature recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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26. During initial performance testing, the ammonia injection rate shall be monitored concurrently with each testing run to establish acceptable values and ranges that provide a reasonable assurance of ongoing compliance with the emissions limitations stated in this permit. The minimum ammonia injection rate(s) demonstrated during the initial NOx source test to result in compliance with the NOx emission limits shall be imposed as a condition in the Permit to Operate. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
27. If the ammonia injection rate is less than the minimum ammonia injection rate demonstrated during the initial compliance test, the permittee shall return the ammonia injection rate above the minimum ammonia injection rate established during compliance testing as soon as possible, but no longer than eight hours after detection. If the ammonia injection rate is not returned above the minimum ammonia injection rate established during compliance testing within eight hours, the permittee shall notify the District within the following one hour and conduct a source test within 60 days of the first exceedance to demonstrate compliance with the applicable emission limits at the reduced ammonia injection rate. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NOx (as NO2), CO, and O2 weekly using a portable emissions monitor that meets District specifications. If compliance with the NOx and CO emissions is demonstrated for eight consecutive weeks, then the monitoring frequency will be reduced to monthly. If deviations are observed in two consecutive months, monitoring shall revert to weekly until eight consecutive weeks show no deviations. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within one day of restarting the unit unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the week if on a weekly monitoring schedule. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
29. If the NOx and/or CO concentrations, as measured by the permittee with a portable emissions monitor, exceed the permitted emission limits, the permittee shall notify the District and return the NOx and CO concentrations to the permitted emission limits as soon as possible but no longer than eight hours after detection. If the permittee's portable emission monitor readings continue to exceed the permitted emissions limits after eight hours, the permittee shall notify the District within the following one hour, and conduct a certified source test within 60 days to demonstrate compliance with the permitted emissions limits. In lieu of conducting a source test, the permittee may stipulate that a violation has occurred, subject to enforcement action. The permittee must correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
30. Permittee shall determine and record the ammonia slip monthly using a draeger tube, or equivalent ammonia detection device. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
31. The owner or operator shall submit a report of NOx excess emissions and periods of monitor downtime to the APCO semi-annually, and this report shall be postmarked by the 30th day following the end of each 6-month period. [40 CFR 60.334(j)(5)] Federally Enforceable Through Title V Permit
32. NOx excess emissions shall be defined as any unit operating hour for which the average water to fuel injection rate, as measured by the continuous monitoring system, falls below the water to fuel ratio specified in this permit, including during startup and shutdown. NOx excess emissions shall also be defined as any 4-hour rolling unit operating hour in which the average ammonia injection rate falls below the minimum ammonia injection rate(s) specified in this permit, not including startup or shutdown. NOx monitor downtime shall be defined as any operating hour during which the water to fuel ratio or ammonia injection rate is either not recorded or is invalid. [40 CFR 60.334(j)(1)] Federally Enforceable Through Title V Permit
33. Permittee shall maintain daily records of the occurrence and duration of each startup or shutdown and the total cumulative duration of all startups and shutdowns. [District Rule 4703] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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34. The owner or operator shall maintain a stationary gas turbine operating log that includes, on a daily basis, the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation, type and quantity of fuel used. [District Rule 4703 and 40 CFR 60.332(a) and (b)] Federally Enforceable Through Title V Permit
35. The owner or operator of the stationary gas turbine system shall maintain records of the following: (1) Water to fuel injection continuous monitoring system measurements, (2) Ammonia injection rate monitoring system measurements, and (3) Periodic NO_x, CO, and O₂ portable emissions monitor measurements. [District Rules 2201 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
36. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2520 and 4703] Federally Enforceable Through Title V Permit
37. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: San Joaquin County Rule 108.1 as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
38. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: San Joaquin Country Rule 407 as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
39. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b); District Rule 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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